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General Education Reading Material Series No. 1

WHAT IS GENERAL EDUCATION

WHAT IS GENERAL EDUCATION

by

S. ABID HUSAIN

General Education Reading Material Project,
Aligarh Muslim University, Aligarh

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FOREWORD

AMONGST the many weighty recommendations made by the University Education Commission, about a decade ago, was the introduction of General Education as part of the undergraduate courses offered by Indian Universities, so that those who take their first degree will have a well-rounded, instead of lop-sided, conception of the modern environment for which University education is expected to fit them. But the basic importance of this particular recommendation was not at first realised, and it is only during the last few years that it has attracted the attention and support of the Union Education Ministry and the University Grants Commission, as well as some experimentation on the part of a few Universities, among them the Aligarh Muslim University. Teams of Indian experts have been enabled to visit the U.S.A. and visits by experts from abroad facilitated as a result of such attention, support and experimentation. But owing to the inherent difficulty of the subject, what precisely is General Education and how exactly it is to be introduced as part of the courses offered by Indian Universities is not yet widely understood.

With the help of assistance extended by the U.G.C., the Aligarh Muslim University has undertaken a General Education Reading Material Project in order partially to fill this lacuna and a number of volumes are ready for publication. Dr. Abid Husain, who is in charge of the Project, has prepared the present small volume with the object of explaining the meaning and purpose of General Education, so that the Reading Material Series may achieve its object most effectively.

Dr. Abid Husain has dealt with all relevant issues in a competent manner and I believe that what he has to say in the following pages about General Education will interest not only those immediately concerned but also wider academic circles, and re-emphasize the importance of a truly well-rounded University Education.

C. D. DESHMUKH

PREFACE

THE DAWN of freedom gave rise to a new stir and movement in almost every department of life in our country. University education, too, was shaken out of its somnolent repose by the University Grants Commission when it began to function as an active autonomous body. There is expansion and development and new projects are being launched. But the main system has not undergone any appreciable change. This does not, however, mean that we are satisfied with this system. For a long time our political leaders, specially the many major and minor ministers, our poets and writers, our planners and reformers have been slashing at the whole system of education with a vigour and vehemence remarkable in a non-violent people. But we seem to forget that self-criticism is of positive value only when it is accompanied with or followed by an effort to reform. Otherwise constantly chafing at our faults without doing anything to correct them may prove to be a very dangerous thing. We must be careful lest we begin to find pleasure in self-chastisement and fall a prey to mental sadism.

The most serious charge against the present system of education is that it uproots us from our own cultural soil and makes us parasites of a foreign culture. But, as far as I know, nobody has taken the trouble to tell us what miraculous power there is in our present education which can perform the gigantic feat of denationalising a whole people. Nor has any comprehensive scheme of bringing about the desired reform in the organisation, the syllabus and the method of university education been put forward by any of our critics.

During the last few years, however, a new idea, "General Education", said to show the way to a fuller and more fruitful education at the university level, has forced itself on our attention. It was initially suggested by the University Commission in 1949 but nobody seemed to take any notice of it. After some years, the Ministry of Education with the co-operation of the Ford Foundation took preliminary steps to get our Universities interested in the problem by arranging seminars and sending out delegations to the United States of America where General Education has been a living issue for the last 25 years or more. Now the University Grants Commission has taken up the matter and is actively considering it. Meanwhile the University of Baroda and the Aligarh Muslim University have ventured to introduce integrated courses in General Education as compulsory subjects of study for their under-graduates. Osmania University has also made a beginning and some others are thinking of following suit but cannot make up their minds. What makes it difficult for them to come to a decision is that the advocates of General Education have not yet explained clearly its meaning, scope and purpose and there is much misunderstanding and confused thinking about it in educational circles.

The other day, one of our great educationists who was told about the General Education Reading Material Project undertaken by the Muslim University asked me in a bantering tone, "Now, what is this General Education?" Trying to put him off with an aphorism I said, "General Education is what education should be but isn't." I did succeed in parrying the disconcerting question for the moment. But it set me thinking. I found it really strange that though the problem of General Education had been discussed and debated in our country for some years, nobody had written even an article in an educational journal on the theory and practice of General Education, to say nothing of a book on the subject.

I do not claim to be an expert on General Education but I have, in the course of working on the Reading Material Project, read about and thought over the subject for two years and discussed it with my colleagues and other friends in the Muslim University as well as with the American experts who visited us from time to time. So some ideas of the meaning and purpose of General Education and its significance for our country have formed themselves in my mind. Frankly speaking, I have come to believe that the real deficiency from which our present educational system suffers, specially at the level of the university, is the total lack of General Education as well as inadequate provision for specialisation. So realising the vital importance of General Education and the urgent need of explaining it to our educationists and to the general public, I persuaded myself to venture on this short monograph discussing the concept of General Education and its implications for our country as an introduction to the series of books prepared under the General Education Reading Material Project. I earnestly hope that this preliminary effort will provoke others to fuller and more fruitful discussions on the subject.

But here I must mention one thing. When I was discussing the publication of this MS. with Asia Publishing House, they told me that they were bringing out a book on *General Education and Indian Universities* by Professor G. D. Parikh. This came as a pleasant surprise to me and I thought it was no longer necessary for me to publish anything on the subject after one of our foremost educationists had come out with his considered views on General Education in Indian Universities. But I was assured that my approach to the problem was, notwithstanding many similarities, sufficiently different from Professor Parikh's and the publication of this booklet would not be entirely superfluous. Now that I have myself gone through Professor Parikh's book, I am satisfied that this will serve a useful purpose as an appetiser to the solid fare offered by Professor Parikh.

I would like to end these preliminary remarks with the acknowledgement of my obligation to my colleagues in the Reading Material Project as well as to the members of the Board of Studies of General Education in the Muslim University. Without the exchange of views, always stimulating and sometimes illuminating, which I had with them in formal discussions and informal disputes, it would not have been possible for me to have a more or less clear idea of what General Education is and what it means to us. I am also grateful to Dr. C. D. Deshmukh for inaugurating the publication of the Reading Material series with a Foreword to this first volume. As he was the sponsor of the whole project it is but fitting that its first product should come out with his blessings.

A. H.

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I

THE MEANING AND PURPOSE OF GENERAL EDUCATION

EDUCATION, like all other social problems, is a controversial subject. There is much difference of opinion both about its nature and its object. It is, therefore, not possible to give a comprehensive definition of the term on which there could be universal agreement. All we can do is to point out some of its general characteristics which most educationists would recognise to be relevant. Suppose we say: "Education is the process through which the intellectual and practical capacities of an individual are developed so as to make him a cultured person as well as a useful member of a cultured society." This may not be a complete definition acceptable to all but, from the point of many educationists in our country, it indicates the most important function and object of education and so it seems to be adequate for our purpose.

The personal aspect of education, that is, bringing up the child to be a cultured person, and its social aspect, namely, training him or her to be a useful member of society have both been regarded as important in all ages and all countries. But there has been considerable difference in emphasis. The most prominent example of the change of emphasis is found in the educational history of West Europe. Since the Renaissance, the personal aspect of education was given so much importance that higher education had formed an almost completely individualistic pattern. Following the imaginary example of ancient Greece, the whole emphasis was on individual culture, that is, on the building up of a harmonious all-round personality. Much less attention was paid to the development of social consciousness and responsibility—a proper sense of one's obligations to society and the competence to fulfil them. As we know now, the idea that the individualistic culture and education of that age which was known as Humanism conformed to the classic Greek pattern, had little or no basis in fact. The educational concept of the Greeks of the classical period was by no means one-sided, that is, exclusively individualistic, but was a harmonious blend of individualism and social-mindedness. If a distinguished representative of classical Greek thought like Aristotle could speak of man as a "political animal", it would be absolutely unwarranted to say that the social aspect was not sufficiently emphasised in the educational ideas of the Greeks. However that may be, the individualistic educational concept of the Renaissance, based on the so-called Greek view of humanistic culture, prevailed in Europe more or less till the middle of the 19th century. But the philosophical and economic movement of collectivism or socialism which began in Europe after the Industrial Revolution deeply influenced educational ideas and, in the socialist system, the social aim of education of preparing the individual for being a useful member of society was given the same one-sided and exclusive emphasis as the personal aim had received before. But today those who give serious consideration to educational problems believe that the personal and social aspects of education are two sides of the same coin which cannot be separated from each other, so the question of comparing them and giving one preference or priority over the other does not arise.

To realise the full significance of this we will have to consider the meaning of the term "culture". It may briefly be defined as "the consciousness of higher values and the shaping of our life in accordance with these values". Values may be divided into the following categories:

1. Economic-biological (self-preservation and pleasure)
2. Social (the love and service of our fellow-beings)
3. Political (the proper use of power so as to maintain peace and justice)
4. Aesthetic (the creation and appreciation of proportion, harmony and beauty)
5. Theoretical or scientific (the pursuit and attainment of true knowledge of man and his natural and social environment)
6. Religious: (*a*) a firm faith in some view of ultimate Reality and of the origin and end of

the universe; (*b*) action according to this faith so as to realise the ultimate Reality or God.

Now, a cultured person is one whose personality and conduct reflect a sense, more or less, of all these values as well as some measure of their realisation. Similarly, a cultured society is one which possesses a heritage of these values in the form of cultural goods and institutions. So we see that the consciousness and realisation of the social value consisting in the love and service of mankind is an integral part of individual culture. Similarly, the political value—the maintenance of peace and justice through the proper use of power—is to be attained by the individual only as a member of the social order. Other values too are related, though not to the same extent, to social life. Good living and pleasure, enjoyment of art, pursuit of truth and practice of piety are, in their true and enduring form, possible to man only in society. Their real charm lies in realising them, not for oneself alone, but for one's fellow-beings as well.

Thus, if we want to take the right road to the personal object of education, we have to keep in view the social object at every step. Similarly, if we are striving to realise the social purpose we cannot afford to lose sight of the individual aim for a single moment. Unless a man has reached a certain level of self-culture he cannot be of any real service as a member of a cultured society.

In short, the personal and social aspects of education are phases of a single organic process which cannot be divided into separate parts without each part losing all life and vitality. The modern psychology of education confirms scientifically what was empirically known to all true educationists; that educating the child as an individual and as a member of society is a single, indivisible process. The child has various capacities and education consists in their development and harmonious blending into an integrated personality. But in each individual child one of the given capacities is stronger or more prominent than the others. While trying to develop all positive and valuable capacities in the child, the teacher has to give the development of the one which predominates in a particular child a central place in the education of that child, correlating all others with it, in a harmonious pattern. Thus the child grows into a cultured individual and at the same time equips himself, through the development of his special talent, or some particular vocation or profession which would make him a useful member of society.

Now, it will be easily seen that just as the educational theory of the humanists of the 16th century, with its sole emphasis on the development of an all-round integrated personality, regardless of the function which the individual would have to perform in society, was one-sided and inadequate, so is the present idea of concentrating from a very early stage on a course of education which would equip the student for his special vocation in life, making him into an efficient part of the social machine, without any background of general education and culture. Thus the great question before the educationists of today is what should be the pattern of education which could make every young man or woman a cultured individual as well as a useful member of the modern civilised society.

Before answering the question we would like to make one thing clear. Some people are inclined to think that academic education can develop only the intellectual faculties of the child and has little or no influence on the formation of character. But every educator knows that knowledge, even if it is not the essence of virtue as Socrates claimed, plays a great part in determining our conduct and moulding our character. Now, if we apply to academic teaching the formula that education should not only aim at developing and integrating all the capacities of an individual, but should also pay special attention to the building up of the one capacity which predominates in that particular individual, it follows that the student should be introduced to all important branches of learning, although the particular science or sciences for which he has a special aptitude should be given a central place in the curriculum prescribed for him. This means that the syllabus of studies in the College or University should consist of two parts—a course of General Education compulsory for all, and a course of specialisation in one or more disciplines which the student voluntarily chooses for himself.

In the Middle Ages the syllabus of higher education in Europe conformed to this pattern. In our own country, Sanskrit Patshalas as well as Arabic and Persian Madrasas had a general course of study comprising the elements of all branches of religious and secular learning. For specialisation in any field the student had to sit at the feet of great masters who were regarded as specialists in that particular field. But in Europe during the 18th and 19th centuries the need for specialisation grew for two reasons. Firstly, human knowledge, specially of the physical sciences, made phenomenal progress. Not only the stock of knowledge but the standard of its exactness, its precision, increased to an amazing extent. So it became impossible for the student to learn even the elements of all the sciences. Secondly, the progress of industrial civilisation made life more and more complex and every profession required a far deeper foundation of scientific knowledge. So education had to cater in a much greater degree to the needs of the vocation, and in the syllabus of studies more and more importance had to be given to sciences directly related to the profession which the student intended to follow and less and less to other branches of learning. That is to say, education in industrially advanced countries was subject to ever-increasing specialisation and little scope was left for General Education.

This extreme emphasis on specialisation had two obvious advantages. Firstly, it gave a great impetus to scientific research. Specialists who plunged deep into one science were more successful in finding fresh pearls of knowledge than those who skimmed through all sciences. Secondly, specialised knowledge of each branch of science applied to technology led to new inventions as well as to higher standards of efficiency for the technicians who used these inventions to make life more secure and comfortable.

But to see the other side of the picture, we will have to look more closely and carefully into the effects of over-specialisation in education on modern life which science and technology once seemed to have made so secure and comfortable.

One of the important standards by which the progress of civilisation is judged is the extent to which it has brought men closer and promoted the feeling of the unity of the human race. As we know, in the earlier stages of social evolution the sense of unity was limited to those belonging to the same clan. Gradually it was extended to the members of a tribe, a caste, a class, and finally to a whole nation. Today, man has reached a stage of social evolution where people with imagination have begun to dream of one world, one all-embracing family of man. Looked at from this point of view, the ever-growing specialisation in education is one of the negative influences counteracting the trend towards unity. The more education is cut into pieces or walled into compartments, the more will the common ground of general education shrink, the more will men be divided into smaller and smaller functional groups, each with its own vocation, social and intellectual life, values and aspirations, recreations and amusements—its own separate world. So the one class of people, the intelligentsia, to which we could look for leading the movement of the unity of man, will become indifferent if not actually opposed to this movement and education will turn into a dividing force more potent than religion, race, or country.

Another serious shortcoming of over-specialised education to which we have already referred is that, though it can produce excellent experts and professional people, the broadening of mind and the integration of personality which we call culture is beyond its range. Without this inner culture man not only fails as an individual to acquire many graces of life and enjoy many of its blessings, but even as a member of the social group he cannot establish healthy and happy relations with his fellows or serve them to the best of his capacity.

The state of things to which the craze for specialisation is leading in the industrially advanced countries—the lack of General Education in the individual with the one-sided development of his mind and the disintegration of society into functional groups living in watertight compartments—is a great danger for our modern industrial society. Without the cultural background which General Education alone can provide, people will not acquire the intellectual awareness and the social sensibility so necessary for members of a democratic society and citizens of a democratic state. They will not be able to discharge their social duties with intelligence and responsibility and the whole democratic system will collapse. Similarly, moving and thinking in isolated, narrow groves, they will lose sight of the unity and integrity of life, and will be unable to take the total view of things to which philosophy and religion have been trying to turn their minds and, as a result, the very basis of a spiritual life will be destroyed.

These are not imaginary fears. The signs of things to come are already visible in the countries leading in industrial civilisation. Everybody lives in the tiny world of his business and occupation and is so completely occupied with his daily round of work and pleasure that he has hardly time or desire to think about the place of his own little sector in the great circle of life, much less about the relation of life on this small globe inhabited by man to the vast universe surrounding it. As a matter of fact, he has not even a faint idea that his life and his world are parts of an immense, infinite whole. Many people have a mistaken notion that the reason for the growing indifference to religion and philosophy is that science has shown them up to be unsound or even unnecessary. That may have been the feeling of scientists towards the end of the nineteenth century. But today, all thinking people among them are keenly conscious of the need of religion and philosophy, though they are not satisfied with the way these subjects have so far been handled and are looking for a new approach. So the present apathy to religion and philosophy is by no means a consequence of the scientific outlook on life but of the fragmentation of life due to the atomisation of education, which has not only divested the minds of the people of integral conceptions of life and the universe, but even of the feeling that such conceptions have any significance or purpose. Both religion and philosophy fulfilled what was called "the metaphysical need" of man. When the need is no longer there, things which had satisfied the need would naturally seem to have lost their value.

But this is not the end of the tragedy. If man had really got rid of the urge for a total view of life and the universe, he could perhaps have lived in perfect peace and happiness on the plane of the lower animals. But the feeling never really dies; it merely subsides. The metaphysical need sinks down to the level of the subconscious and brews under the surface. Whenever it finds an outlet, it gushes forth violently, not through the normal springs of religion and philosophy but through some abnormal channel. Not having been trained to satisfy its urge for the realisation of Truth through faith in God or belief in the Absolute, it designs for itself strange gods like country or race, the iron law of dialectics or the ruthless march of history. But there should be no false notion that those who continue to cling to religion and philosophy for the satisfaction of their metaphysical need fare any better. After all, the votaries of religion and philosophy are living in the same world where life has been divided into so many isolated sectors, and their view of life is also circumscribed by the limits of their own little sector. If anything, they are worse off than people without any religion or philosophy. For, while the latter, who see only a part of life and not the whole, suffer merely from what in Urdu and Persian idiom is called "simple ignorance", the former, who delude themselves that their own part is the whole [of life], are victims of "complex ignorance".

The educational crisis we have been discussing so far is that through which industrially advanced countries of Europe and America have been passing for some time. But if we look at our own country we find it in the grip of a graver crisis. For we adopted the western system of education in such a perverse way that we took what was bad and left out what was good in it. Our universities dispensed with General Education without, however, making adequate arrangements for specialisation. This point we will discuss in some detail in our survey of university education in India in the next section.

Here we are concerned with the nature and object of General Education. To make what we have so far said in this connection more clear we will compare the idea of General Education with the much more familiar concept of liberal education. Liberal education was the pattern of academic instruction common in Europe from the 16th to the middle of the nineteenth century and is still preserved in many schools. The term had been in use from the early Middle Ages but its meaning had changed after the Renaissance. In the Middle Ages liberal education meant instruction in the "liberal arts"—Grammer, Logic, Rhetoric, Arithmetic, Geography, Astronomy and Music. The word "liberal" implied that this was an education worthy of "freemen" or "gentlemen" and could not be given to slaves. During the period of the Renaissance liberal education acquired a different and wider connotation. It came to mean education which liberates the mind of the child and makes him a "man" in the full sense of the word as opposed to vocational education, which merely trains him for some profession. The syllabus of liberal education included almost all the disciplines which now belong to the Faculty of Arts. But special importance was given to classical literature, philosophy, and art which were regarded as essential for developing all the best human qualities and were, therefore, known as "Humanities".

In our own days the education considered to be necessary for every man as the general cultural foundation for all special studies is no longer designated as liberal because it differs in its meaning and purpose from the liberal education of the Middle Ages, and in its scope from the liberal education of the Renaissance. It is called, for want of a better name, General Education. The term is not a very happy one and is partly responsible for the confusion which prevails among educationists about the nature and significance of what it is meant to convey. But it has now acquired the sanction of common usage and cannot be easily changed.

What is common between the General Education of today and the liberal education which has been prevalent in the Western world since the Renaissance, is that both aim at the building up of a cultured and integrated personality. But General Education does not regard the refinement of feeling and imagination, which was the main object of liberal education, to be sufficient for this purpose. It tries to supplement it with the cultivation of the social and political sense and the development of the scientific outlook on life. So its scope is not limited to the world of values covered by Humanities but extends to the world of social relations and the world of nature covered by the Social and the Natural Sciences respectively. To what extent and in what way the three areas of knowledge should be studied under General Education will be discussed in connection with the drawing up of a syllabus. Here we will sum up and close this discussion with the words that General Education is a new and more comprehensive version of liberal education; and that its object is to provide every young man and woman (as a necessary complement to the special study of one or more disciplines) with a general course of study of man and his physical, cultural and social environments for the development of right attitudes, the cultivation of right habits of thought, feeling and action, and the building up of an integrated personality.

II

GENERAL EDUCATION IN COLLEGES AND UNIVERSITIES

EDUCATION in our country, as elsewhere, is given in three stages: primary, secondary and higher education. Here we are concerned mainly with the last and the two earlier stages will only be referred to in passing. Primary education takes two forms: that which is imparted in the lower classes of Secondary or High Schools and that which is given in separate Primary Schools. The lower classes of High School aim merely at preparing the child for higher classes. They content themselves with teaching the basic skills of Reading, Writing and Arithmetic, combined with a bit of general information. This is, on the whole, adequate for the purpose which these classes are supposed to serve. But the position in the separate Primary Schools is not at all satisfactory. Most of the children reach the end of their schooling at this stage entering practical life either immediately as cultivators or unskilled labourers or, after a brief period of vocational training, as artisans, mechanics or shop assistants. So what these schools need is a preliminary course in General Education in the sense in which we are using the term but so designed as to serve simultaneously as a preparatory course for the functions which the children will have to discharge in society. In other words, it should be such as to help, on the one hand, in developing the physical, moral and intellectual faculties of the child, and on the other, in laying down a foundation of general manual skill and mental alertness which will come in useful in any vocation he may choose to follow in life. The existing curriculum in our Local Board schools, which is more or less a copy of that prescribed for the lower classes of the High Schools, serves neither of the two purposes. The first educational scheme in which adequate attention was paid to the special needs of those who terminate their schooling at the primary stage, was that of Basic Education prepared by the Zakir Husain Committee and after many years of hot controversy the main principles underlying the scheme have been accepted by the Union as well as the State Governments. But it must be mentioned here that courses of Basic Education in Government-controlled schools do not, as a rule, include elements of cultural History and Civics which had received their due share of emphasis in the syllabus prepared by the Zakir Husain Committee. This is obviously a serious defect from the point of view of General Education. Recently, the Union Ministry of Education has issued a directive for the introduction of moral education in schools. We earnestly hope that the attempt to translate this idea into practice will be based on wider considerations of General Education, an insight into the mind of the child and a proper understanding of the art of teaching, and that moral education will not be allowed to degenerate into boring, didactic rigmarole.

The secondary stage of education in our country is devoted to a course of general studies comprising two or more languages, History, Geography, Arithmetic, Drawing and, in some cases, General Science. But here too, we find the same defect as in our primary education. In most of the Secondary Schools, including those which profess to have a self-sufficient syllabus qualifying for the School Leaving Certificate, the courses are so designed as to prepare the pupils for further study in the university, ignoring the needs of those who finish their academic education at this stage and either go in for some kind of technical training or immediately enter practical life. Thus it is of little help either in training the minds of young boys and girls for vocational activity or in giving them a coherent conception of their physical, social and cultural environments so as to adjust them to this threefold environment.

A few years ago the All India Council for Secondary Education formulated a new scheme for multipurpose Secondary Schools with adequate provisions for the requirements of General Education as well as those of technical or vocational education. The scheme which is being gradually implemented seems to be a step in the right direction.

The conclusion to which a cursory review of the courses of study at the first two stages of our educational system leads us is this. What is fundamentally wrong with our education is not that it conforms more to a foreign than to the national pattern of culture but that it does not conform to any cultural pattern at all. It seeks to inculcate in the children and youth of our country certain skills and to impart a certain amount of information. But it neither equips them for any particular function in life nor helps in fostering that sense of values and those mental and moral attitudes which are the essential constituents of a cultured personality.

The fundamental defects which we have pointed out in our primary and secondary education are so obvious in higher education that they do not need any pointing out. For undergraduates in our Colleges and Universities there is neither adequate provision for General Education nor for specialisation. In this, our system of higher education differs both from the British and the German systems which we follow in many other things. The German Universities have a one-tier Course of Study combining higher education with research work leading to the Doctor's degree. In British Universities there is an under-graduate or Honours Course which is purely instructional followed by a post-graduate or research course. We in India have a three-tier system of university education consisting of (1) a Bachelor's course in which the student receives higher instruction in a number of subjects; (2) a Master's course which involves an intensive study of one particular subject; and (3) a course of pure research work leading to the Ph.D. degree. The Master's course was meant to provide an opportunity for the specialised study of some particular subject as long as there was no research course. After the introduction of research courses in various subjects it has become superfluous. We must seriously consider the idea of abolishing the Master's course and instituting a single three years' post-graduate course which should combine, as in German Universities, higher instruction with research and prepare the student for the Doctor's degree. This will have the advantage of enabling the research scholar to have an extensive view of the whole field of his subject and to look at his particular research problem in its proper perspective instead of confining his whole attention to a single spot, which is bound to tire the mind and limit the vision. Besides, the total period of post-graduate study leading to the Doctor's degree will be reduced by one year. On the debit side it may be said that, while at present a B.A. or a B.Sc. can become eligible for a Lecturer's post after getting a Master's degree in two years, as a result of the proposed change it will take him three years to qualify for the post. But this is a mere illusion. The real position is that even now it is becoming increasingly difficult for mere M.A.'s and M.Sc's to get Lectureships as more and more candidates with a Doctor's degree are competing for them. After some time a M.A. or an M.Sc. will hardly have a value in the market of employment higher than a

B.A. or a B.Sc. To come back to the point, the post-graduate stage is and should be devoted to specialised study. But at the undergraduate stage, covering the first four years of University Education, we need a balanced course of general and specialised education which no University provides at present.

The general pattern today is that the area of special study comprising three optional subjects is so large that specialisation has no meaning while that of what can be called General Education is much too small, being confirmed to the teaching of the English language, or, in some Universities, to the teaching of English and the mother-tongue. As stated above, this is unsatisfactory both from the point of view of General and of special Education. Looked at from the point of specialisation, an elaborate and intensive study of three subjects is simply impossible at the under-graduate level. That is why the standard of attainment of students taking pass courses in our colleges and universities is no higher than that of the secondary school students in many European countries. So far as General Education is concerned, it comprises no more than compulsory courses in English and the mother tongue, which are taught simply as exercises in communication. Now, communication is not General Education, though it paves the way for it.

A balanced course of General and Special Education at this stage will have to be evolved in such a way that the optionals consist of one main and two subsidiary subjects. For instance, if a student offers a combination of History, Economics and Politics or Physics, Chemistry and Mathematics as his optional subjects, then one of each set of three subjects should be studied thoroughly and intensively while the other two subjects should be learnt only to the extent to which they can help in a thorough grasp of the main subject. It should be possible for us to arrange the various optional subjects in a number of suitable groups so that each student could select one of these groups and carry on comprehensive study of one particular subject belonging to that group and a selective study of the remaining two subjects. In this way, he would really be in a position to concentrate his attention upon a limited field of study and could with some justification be said to have specialised in it. An additional advantage would be that some of the time, now spent on optional subjects, would be available for the teaching of General Education as a compulsory subject, and it would be possible to draw up a comprehensive and integrated syllabus of this subject fit to serve as a general cultural background for special education.

In the United States, where experiments in General Education have been carried on for about a quarter of a century, different types of courses are being tried. There are two main patterns. In some universities a large number of short courses in the three main areas of Humanities, Social Sciences and Natural Sciences are provided and the student has to choose some courses from each area. But this arrangement is open to the criticism that it is not always possible for the student to choose the best combination of courses. Besides, so far as India is concerned, our limited resources do not allow us to provide for the teaching of a large variety of courses, and so this type of General Education is out of the question. Other American Universities select from each area such important topics as can best serve the purpose of General Education and arrange them into an integrated course compulsory for all. It is this pattern of General Education which finds favour with the general trend of educational opinion in America today. In England, the University of Staffordshire at Kiel has also adopted this system. For us also it seems to be the only sound and practicable way.

In such a course of studies communication should obviously serve as the foundation of General Education. It was the ability to express his thoughts in words and to put them across to others (known as the faculty of speech) which distinguished man from other animals and enabled him, through the exchange of ideas, to amass the treasure of collective experience and wisdom in the form of culture. Even today the first requisite for a cultured person is the ability to express his ideas and feelings clearly, precisely and gracefully in speech and in writing. Unfortunately the teaching of communications has not yet received, in our secondary schools, the attention it deserves. So it is all the more necessary to emphasise it at the University stage.

As we have already noted, most of our universities provide a compulsory course of communication in English and the mother-tongue, in addition to Hindi in the non-Hindi areas. These compulsory courses should be made a part of the General Education course. This will involve two important changes. First, the teaching will be done mainly through discussion and written work with as few lectures as possible. These discussions and tutorials, to be of any real value, have to be held in small groups, which ensures active participation by each individual student. Secondly, the course in communication will have to be closely linked up with a brief course in the appreciation of literature. The question of the syllabus will be considered in the next chapter. Here it is enough to say that Literature, as the chief instrument of broadening the vision and cultivating the mind, has always been regarded as the life and soul of liberal education and will, by common accord, find the first place in any syllabus of General Education. Similarly, an informal introduction to Fine Arts and Philosophy, giving the student some idea of Beauty, Goodness and Truth will readily be accepted as a necessary component. What may be regarded as controversial is whether a basic knowledge of social and physical environments is equally, if not more, important for General Education and must be included in its syllabus.

Syllabus for G. Ed.

As we have already said, one of the main objectives of General Education is to provide training in citizenship, to prepare the individual for discharging his duty to the State. What a democratic society requires of an individual is not only a proper training in a useful vocation through which he can serve the community, but also the ability to participate in its government. There are various degrees of such participation. The minimum that is expected of a citizen is the intelligent use of his vote to elect the proper persons to make laws and to execute them. But people who have received the benefit of higher education are further expected to help and guide their less fortunate brethren in political affairs and, if necessary, to represent them in Local Boards, Municipalities, Regional and National Assemblies. This obviously requires some idea of the structure of human society, the laws of its growth and the nature of the social and political institutions, and some understanding of their own particular pattern of society and its problems. Hence, a survey of the evolution of human society in general and a more detailed study of the socio-political organisation of our own country in particular, must find a place in General Education.

The only question which now remains to be considered is whether a basic course in Natural Sciences should also form an integral part of General Education? The answer cannot but be in the affirmative, if we take into consideration the marvellous progress of natural science in our time and the important role it plays in our daily life. Ever since the study of nature was based on observation, analysis and inductive thinking, the physical and also, to some extent, the biological sciences began to acquire an exactness and precision, which is scarcely to be found in any other branch of knowledge. Thus in common parlance, the word science became synonymous with Natural Science as distinguished from social and humanistic studies. Similarly the dispassionate objective method of inquiry used in the study of the physical world came to be known as the scientific method and the rational and balanced attitude to life as the scientific attitude. Now exact, precise and objective thinking and balanced judgement are also essential ingredients of general culture and so the study of Natural Sciences which is the best means of acquiring these qualities is indispensable for General Education. Besides, during the last hundred years Natural Science has become so closely and intimately linked with our daily life that scientific terms and references and allusions to the problems of science are in common use, not only in social studies and literature, but also in our general conversation. So much so that a proper comprehension of books on social sciences, literature and fine arts, of articles in journals and newspapers or even of conversation of educated people in scientifically advanced countries, is not possible without a modicum of scientific knowledge. It should, therefore, be readily admitted that, in addition to integrated courses in Humanities and the Social Sciences, a course in Natural Sciences specially designed for the purpose of General Education must be included in its syllabus.

III

THE SYLLABUS

WE SHOULD be quite clear about the objects we wish to achieve through General Education before we proceed to prescribe a syllabus for it. Its main aim is, as we have already said, to build up an integrated and cultured personality, as far as that is possible through the imparting of knowledge. An integrated and cultured personality is really one that is well adjusted with its natural, social and cultural environments. So the first requisite for the development of such a personality is the knowledge of this three-fold environment. Now the question arises: What should be the scope of this knowledge? It is obvious that no individual, unless he can live as long as Methuselah, can encompass all the knowledge that has been acquired by man through the ages. That is why it is necessary to define the boundaries of that basic knowledge an under-graduate must acquire so as to fulfil the needs of General Education, in the limited time available for this course. The following diagrams will help to explain the scope and requirements of General Education as I see them.

Figure 1 presents the ideal picture of complete integration of knowledge, which the human mind has always craved for but never so intensely as in

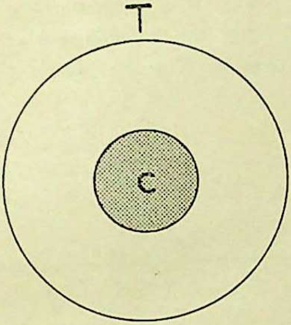

FIGURE 1

modern times. Such a picture will emerge only when universal laws have been discovered; laws which operate uniformly in the physical world, the social world, and the cultural world or the world of values; and when, with the help of these laws, a unified field of knowledge extending over all the three areas has been established. At that time, the outer circle, i.e. the circle *T*, will represent the totality of human knowledge and the inner circle *C* will represent the basic knowledge which is the common core of all three areas, i.e. of total knowledge. It will be expected of every well educated person that, in addition to being a specialist in one or more disciplines, he has assimilated this basic knowledge which would provide ideal General Education.

This integration of all knowledge acquired by man is no more than a dream to be realised in the distant future. For the present, the three areas of knowledge can only be considered as three adjacent circles (as shown in Fig. 2), with Circle *H* representing Humanities, circle *S* the Social Sciences and Circle *N* the Natural Sciences. In every circle there are a number of segments which represent the different academic disciplines. Concentric with these circles are three smaller circles, each representing the basic knowledge of the area concerned. Joined together by a common axis, these three small circles C_1, C_2 and C_3 give a picture of what we consider to be an integrated course in General Education.

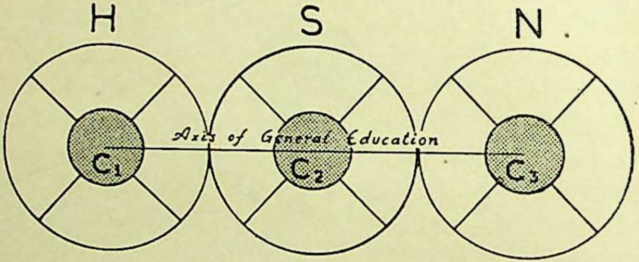

FIGURE 2

What has, therefore, to be done in order to prepare a syllabus of General Education for universities and colleges, is to draw up three basic courses in Natural Sciences, Social Sciences and Humanities as a compulsory subject of study for all students of all faculties. But before doing so we must know the amount of time allotted to General Education as such in the scheme of undergraduate studies.

In view of all that has been said about the importance of General Education, it would not be unreasonable to ask that half of the available time should be devoted to it.

But we know that a syllabus of elective subjects is too heavy to be covered in less than 60 per cent of the time. It seems, therefore, that all we can expect is to get 40 per cent of the time for General Education. For example, if 36 periods a week are available to a student at the undergraduate level, 21 periods will be allotted to the elective subjects and 15 periods to the compulsory course in General Education. Even this may not be possible unless one only of the three elective subjects is taught as a major subject and the other two as subsidiary ones. We shall not repeat the arguments about elective subjects here but will assume that there is one major and two minor subjects. In that way the proper distribution of 36 periods in the week would be:

Elective subjects:		21 periods
Major	12	
Subsidiary	9	
General Education (including Courses in Communication in mother tongue, Hindi & English)		15 periods
Total		36 periods

We have, therefore, to frame the syllabus of

General Education with the understanding that fifteen periods a week will be made available for teaching these courses in the first three years of university education.

As we have said earlier, there should be the following four divisions of the General Education syllabus:

(*i*) Communication
(*ii*) Introduction to Humanities
(*iii*) Introduction to Social Sciences
(*iv*) Introduction to Natural Sciences

Strictly speaking the courses in General Education do not introduce the student to areas of knowledge or fields of scientific study as such but to the threefold environment in which we live—natural, social and cultural. Introduction to the physical world, the social world and the world of values would be a much more appropriate name. But once again we have to make a concession to common usage which employs conventional terms but gives them an unconditional meaning.

The mother tongue is the natural medium for the spontaneous expression of feelings and ideas in daily life as well as a vehicle for the artistic expression of deeper creative thought. And now it seems that official business in every region would also be transacted in the language spoken by the majority of the people inhabiting that region. So the necessity of having a sufficient command over the mother tongue is obvious. Hindi is the official language of the Union and is increasingly becoming the medium of exchange of ideas among people of different regions. Hence, a working knowledge of Hindi is essential for practical reasons as well as for promoting a sense of national unity among the people. At the same time, those whose mother tongue is Hindi should study some other major Indian language to enable them to do their bit for emotional integration. As far as English is concerned, it is necessary to learn it as a tool of higher learning and a means of keeping in touch with the progress of scientific thought in the world. Therefore, a communication course in the mother tongue, Hindi (or any other major language of India for those whose mother tongue is Hindi), and English is a necessary component of the General Education syllabus.

In the course of teaching of the mother tongue and other languages, attempts should be made to develop the literary taste of the undergraduate so as to ensure that he appreciates and enjoys the finer points of poetry and literature. The best way to do this is to place before the students the choicest pieces of prose and poetry from great masters in every age and every land. So a rapid reading of comprehensive selections from world literature should be included in the communications courses, provided they are written in simple language and lucid style which an undergraduate can understand. In the third year of General Education, the communications course should be linked with one of the courses in Humanities comprising of forms, techniques and values of literature to provide the student with a theoretical background for his appreciation of literature. The Humanities course should also include an introduction to fine arts as a part of the course. Without entering into a detailed discussion of the techniques of painting, music and architecture, the student should be given some idea of the forms, styles and values of these arts so that he may be able to appreciate and enjoy them as far as a cultured layman can be expected to do. An essential part of the Humanities course should be an informal introduction to the human mind and human behaviour, the nature of reality and the validity of our knowledge of reality as well as to values as the ends and norms of human conduct. Finally, to round up the Humanities course and to sum up all that the student has learnt through the whole range of General Education, there should be a concluding discussion on "Man in the New World". In this discussion we should review the important changes in the life of the individual and of society produced by the scientific and industrial progress of the last 100 years, and the new problems which these changes have created, and should point out the way in which man has to meet the challenge of the age by adjusting himself and the social system to the changed circumstances.

As far as the communications course is concerned, it has to be started in the first year of the university and continued for three years because a fairly long practice in the use of a language is required for speaking and writing it correctly. But the study of Humanities cannot be taken up before the third year, when the student has already passed through the most critical period of adolescence and has achieved a certain amount of emotional stability and intellectual maturity.

For the first year of General Education, a course in General Science seems to be the most suitable. The laws of science are so definite and precise and its logic so clear and simple that a first year student can easily follow an elementary course in science if it is presented in non-technical language and in an interesting manner. This course should be divided into two parts—one introducing the biological and the other the physical sciences. In Biology the problem which is most suited for the purpose of teaching General Education is the problem of evolution, including the origin of life, the different stages in the evolution of plants and animals, and the emergence and development of man. Topics like the physiology of the human body and the nature of health and disease may also be fruitfully taken up in this course. As far as the physical sciences are concerned, it should be enough to present before the students a general picture of the universe and the basic ideas about the solar system, the interior and surface of the earth, the nature of matter and energy and their relation to each other. Special emphasis should be laid on discussing the meaning, purpose and method of science and its implications for society. This should be done in such a way that even those students who have neither made a special study of science nor propose to do so in the future are able to follow the course.

Having made a survey of the definite and clear configuration of the physical world, the mind of the student would be better prepared to undertake a study of the much less definite contours of the social world. In order to do this, he will have to trace the evolution of society from the stage of the emergence of man on earth to modern times. This will be followed by a study of the form and structure of our own society and its main problems. The first course will be in essence a survey of the growth of European society, because the only scientific study of social evolution which has been made so far is with reference to the people of Europe. So in order to get a clear and complete idea of the processes of social evolution and the laws governing them, it is necessary to study them against the background of European social history. Besides, we in India, have based the new political and social order of our country on modern European concepts and have adopted a number of European institutions. Hence, even from the point of view of our practical needs, it is desirable to study the development of these institutions in Europe so that we may be able to understand their real nature and make proper use of them.

The second part of the course in social studies should be a comprehensive survey of modern Indian Society. It would deal with the Indian State giving the salient features of its Constitution, its foreign relations, its economic needs and resources, and the Five Year Plans which aim at fulfilling our needs by making the best use of our resources. There should also be a discussion of the main social and cultural problems facing our country, especially those which have a bearing on national unity.

But a study of modern India must be preceded by a review of its cultural history. Such a review is essential as a background to the picture of modern Indian Society which we want to present before our students. Howsoever useful our knowledge of European Society may be with reference to our political and economic problems, we must study our own cultural history to understand and solve our cultural problems. Politics and Economics are largely matters of organisation. They are related with the national character of a people but not so intimately as to be inseparable from it. Hence a nation may borrow political ideas and institutions from others and adjust them to its own needs and conditions, but culture in a narrower and more specific sense (i.e. poetry and literature, philosophy, fine arts, way of life, customs and traditions) is organically related with the character of a nation. In other words, culture grows from national character as a plant grows from the soil. That is why we can only receive cultural influences from other nations to a limited extent. No nation can adopt a foreign culture wholesale without losing its soul. Therefore our young men, who have to build a new national culture, must study our cultural heritage and try to understand its essential characteristics which must serve as the foundation of the new culture. They should, however, take in the best elements of Western and other cultures and try to assimilate them in their own culture.

Appendix I presents a clearer picture of what, according to us, should be the general outline of a three-year course in General Education. The proposed syllabus has been framed on the assumption that the present university course will be thoroughly re-organised and that 40 per cent of the time available to an undergraduate would be allotted to the teaching of General Education. But if our universities are not prepared for such a drastic change, they can still find a place in their existing scheme of studies for a course of General Education modified according to their needs. For example, the Aligarh Muslim University, which is not yet prepared to overhaul its entire scheme of instruction, has made General Education a compulsory course for all students of arts, science and commerce spread over 3 years from pre-university class to the second year of the three year Degree Course. Since only five periods per week have been allotted to General Education, the University has substantially curtailed the syllabus proposed by us so that it may be covered in the available time. This shorter syllabus is given in Appendix II.

IV

OTHER PROBLEMS

Teaching Aids—The system of Instruction and Examination-Organisation

IN THEORY, text-books do not have an important place in university education. Teachers deal with the topics prescribed in the syllabus fairly comprehensively in their lectures and students are expected to jot down their own notes from these lectures and to supplement these by their own reading of the relevant books, or at least selected portions of these books. In practice, however, at the under-graduate level, only a few particularly able and keen students do any extensive reading. Many a young hopeful depends almost exclusively on "notes" from the teachers' lectures. Others require the assistance of books which cover the topics of the syllabus in simple language and are easily understandable. The majority of students cannot do without such books. This is likely to be even more essential in the field of General Education where the students are expected to know something about other areas of knowledge than those of their own choice. Here the pattern of the courses of study is different from that in other subjects and the purpose of instruction is not merely academic and theoretical but also practical and moral. So it would be too much to expect that the student can do without text-books specially prepared, keeping the specific objectives of the syllabus in view. We may be disposed to think that our Universities can use the reading material prepared at the different American Colleges and Universities. But this is a wholly mistaken idea. Even in America the scope and content of the courses in General Education vary so much from one institution to another that each has had to prepare its own reading material. How can, then, material borrowed from them satisfy the requirements of our under-graduates whose intellectual, cultural and practical needs are so different from those of American students? So if we want to do justice to General Education in our country, we have to prepare our own material suited to our conditions and requirements. Realising this need, the University Grants Commission made a special grant for a Reading Material Project to the Aligarh Muslim University which was keen on introducing General Education. Under this Project a team of teachers, representing different areas, who are interested in General Education are co-operating with me in preparing suitable reading material in English, Urdu and Hindi. In this task we are guided and helped by an Advisory Body which consists of prominent scholars and educationists in the country. The material will be prepared in two sets. The first will consist of a number of textbooks prepared according to the syllabus given in Appendix I, covering 1600-1700 pages of which about 1000 pages will be prescribed reading for the students of the Muslim University (see Appendix II). The second set covering about 1500 pages will comprise selections from World Literature and from classical works in Social and Natural Sciences. And the students who study the courses as given in Appendix I will be expected to use these selections as supplementary or rapid reading. A complete list of the books proposed to be prepared is given in Appendix III. A large portion of this material has already been prepared and used during the last session and is now in process of revision in the light of experience. It is our hope that the entire reading material will be published by the end of 1960 and that those of the Indian Universities that have adopted or propose to adopt courses along the lines given in Appendices I and II will find this material of some use. But it must be clearly understood that no reading material, howsoever good and useful it may seem to start with, can prove satisfactory over any length of time, and must, therefore, be subject to constant criticism, revision and improvement.

But to make General Education an interesting study and a living experience it is essential to provide, in addition to reading material, a variety of audio-visual aids. A small natural science museum, a historical and sociological museum, a picture gallery and a collection of musical records are the most essential requirements. Thanks to a generous grant provided by the Ford Foundation for buildings, furniture and other equipment for a General Education Centre, the Aligarh Muslim University will enjoy all these facilities. A committee appointed by the Vice-Chancellor is, with the help of experts, considering the best ways of acquiring, arranging and using the various audio-visual aids. It is hoped that the committee will be able to publish the results of its deliberation after some time for the benefit of other institutions interested in the problem.

Even more important than the provision of teaching aids for General Education is the question of the method of teaching. The aim of General Education differs considerably from that of special subjects. It follows, therefore, that the methods of teaching should also be different. There are two main aims, both equally important, of teaching the special subjects. One is material and the other formal. The material aim is to acquire and assimilate as much of the existing knowledge of the subject as possible. The formal aim is that, in the process of acquiring that knowledge, the mind of the student should be trained in logical and rational thinking. This helps to develop the mental attitude which we may describe as scientific, that is, the capacity to look at things dispassionately and objectively. In General Education, however, the material aspect, namely, the attainment of knowledge is not important in itself but only as a means to an end. And the end here is to train the mind not merely in logical thinking but also in "emotional" and "practical" thinking and to develop, in addition to a scientific attitude of mind, sound emotional, moral and social attitudes.

Logical thinking is the ideal of all branches of knowledge. But the fields in which it is seen at its best are those of Mathematics and Natural, particularly Physical, Sciences. In Mathematics we seek to establish logical relations in our ideas about number, mass and quantity and, in the physical sciences, between the various phenomena which we observe so as to bring them under general laws. It is our endeavour that the processes of thought should be absolutely free from sentiment and emotion as well as from practical considerations. The only value that counts in this field is that of truth in the theoretical sense. The aesthetic, economic or moral values have no relevance. In short our approach here is scientific, pure and simple.

During the last two centuries or so, attempts have been made to apply this purely logical thinking to the field of social sciences with considerable success. But here we cannot do without a certain amount of what I have called 'practical', that is, pragmatic and moral thinking. In addition to the observation of social phenomena and the attempt to bring them under general laws, it is essential to see if a particular social idea or concept is practicable or impracticable, good or bad. In other words, it is not enough here to apply the scientific norm. The pragmatic and moral norms have also to be applied. Yet, though our attitude to social problems should not be purely logical but also practical, we must take great care to ensure that our vision is not clouded by passions and emotions.

In the field of the Humanities (e.g., in Philosophy) we have often to use a great deal of logical thinking. Practical considerations, that is considerations of individual and social good, are always there. But so far as Art and Literature are concerned, neither logical nor practical thinking is found to be adequate and a new mental attitude is needed. The most important function of Literature and Art is to cultivate the deeper feelings and satisfy the finer senses. So in the creation as well as the appreciation of works of art and literature our mental process involves thought throbbing with feelings. That is what I call "emotional thinking". But, of course, emotion here cannot be allowed to run riot but has to be kept within limits. There has to be a controlled and balanced emotional approach.

It will be easy now to understand that in the teaching of special subjects, as they are taught today, emphasis is laid only on the mastering of facts, logical reasoning and the fostering of a scientific attitude of mind. No attempt is made to discuss the bearing of the subject of study on life, which involves a practical or emotional approach. This is partly due to the fact that the prescribed courses of study are heavy and occupy all the available time, and partly to the fear that the slightest digression from the logical course would interfere with the objective attitude essential in the pursuit of knowledge. The consequence is that the young scientist does not develop the right practical and emotional attitudes. Howsoever at home he may be in the field of reasoning and research, he feels completely lost in the social world and in the realm of values.

This is the main defect of the present system of education to which General Education provides the necessary corrective. Hence the fundamental importance of the method of teaching we adopt in General Education. Our approach must be such as to help foster ways of thinking best suited to the various areas and to help in acquiring a proper sense of values and the right mental and moral attitudes. It is obvious that the main emphasis in teaching the courses in the natural sciences, even in General Education, must be on fostering the pure, scientific spirit. But in dealing with the impact of Science on Society and the social implications of scientific inventions, we can also try to develop in the student a moral sense of obligation to his fellow men, that is, a social conscience. In teaching social sciences, the role of scientific thinking must be clearly indicated. This means that the student should be taught to look at things in their historical perspective as well as in the context of his own age; and when trying to understand the real nature of social and economic problems, to consider also how these problems should be viewed in given circumstances. In the Humanities, the student will be made to appreciate by a reading of some of the literary and philosophical thought of the human mind that the search for reality can be carried on not only through scientific observation and logical reasoning but also through faith and speculation. This reading will also enable the student to appreciate beauty and enjoy it in the form of words, sound and colour. Here we must be constantly on guard against two great dangers. Through an irresponsible or unscrupulous teaching of the Social Sciences or Humanities, the mind of the young student can be so moulded as to have blind faith in some ideology; or, in the name of practical thinking and emotional thinking, he can be encouraged to have a purely subjective attitude towards moral, social and aesthetic values. To avoid these two dangers, it would be necessary to be very careful in the selection of both teachers and the reading material to train the student to think and decide for himself, and to judge issues involving personal or group interests or emotions not subjectively but on the basis of objective norms. These are a few stray hints thrown out merely to emphasise that a special method of instruction will have to be devised for General Education. This method will only develop as a result of careful experimentation. One thing seems to be fairly obvious. In General Education, lectures will have a relatively unimportant part to play because here the emphasis is going to be not on imparting information but on inculcating correct attitudes and proper values, which can only be done by discussion in small groups. It is my feeling that the proper proportion between group discussions and lectures would be 3:1. In any case it should not be less than 2:1.

Similarly, we must also discover a new method of evaluation and examination where the stress is not on determining how much information the student has amassed but in finding out how far he understands and how he reacts to the social and moral issues of his age, what ideas he has about correct scientific, practical and emotional attitudes, and how he applies them to given problems and specific situations. Probably objective tests will be better for this purpose. The Aligarh Muslim University has been experimenting with this method of examination and the results are under careful scrutiny.

The final practical problem, on which will depend the entire success of the General Education scheme, is the important one of the organisation of teaching and the selection of staff for the purpose. Those who agree with the idea of General Education as developed in this book will readily agree that its implementation calls for teachers of special ability. They should be people who have specialised in some given field but at the same time have wide interests and a broad outlook. They should have a spirit of adventure, an eagerness to experiment with new ideas. In the light of this it is easy to decide how

General Education should be organised. The American Universities follow two broad patterns in this regard. One is to have a small, nucleus staff for General Education and entrust the teaching of the different areas to specialists in those areas belonging to the different departments in the Universities. The other is to have a separate department of General Education with its own special staff. The former would seem to suit those Universities better where the General Education syllabus comprises a large number of courses in different areas and the student has to choose some from each area. Where, however, an integrated syllabus in General Education is adopted the latter pattern, that is a separate department of General Education, is necessary. For Indian Universities we have advocated an integrated syllabus and, therefore, we are in favour of the establishment of separate departments of General Education. In no other way would it be possible for the teachers to cultivate the wider interests and develop the broader outlook which is essential for a teacher in General Education. It is always essential for the carrying out of new experiments in education that the teachers should function as a team, constantly in touch with each other for discussing and debating and comparing notes. But having a department of General Education does not mean that the teachers are entirely cut off from the subjects in which they have specialised. Arrangements can and should be made to enable them to work for a few hours in the week in various departments where they can do some teaching or research in their special subjects.

The number of teachers required for the department of General Education will obviously depend on the number of students and the scope of the General Education course. In the Aligarh Muslim University where the number of students in the first three years of University education is about 1500 and the syllabus of studies is as given in Appendix II, the minimum staff needed has been estimated at:

Director	1
Readers	3
Lecturers	14

This works out at one teacher for eighty students going through a compulsory course in General Education with a provision for some teaching by these teachers in the subjects of their specialisation.

It is obvious that the Department of General Education cannot be a part of any of the Faculties of Arts, Science or Commerce as they are at present constituted in our Universities. The best way to fit it into the general scheme in those universities which have a Department of Education or a Teacher's Training College is that followed by the University of Baroda. There they have set up a separate Faculty of Education comprising the conventional Department of Education (including the Teacher's Training College) and the new subject, General Education. As we have stressed before, the methods of teaching and examination and the technique of using teaching aids are very important in General Education and we have to evolve these after careful experimentation. In this, the assistance of experts in the theory and practice of education will be of inestimable value. The staff of the Training Colleges for teachers would seem to be the most competent people for our purpose. So the integration of the Department of General Education with the Training College into a separate Faculty will be of great mutual advantage. The need for a Faculty of Education in our Universities is making itself felt in other ways also. It is not only in General Education but also in Basic Education and Social Education (which are being introduced on a vast scale in our country) that we are faced with problems of experimentation and research in new techniques and methods. These can only be dealt with at the higher academic level by departments of education in the Universities, and call for the expansion of these departments into faculties.

In a University which does not, and for financial or other reasons cannot, have a Department of Education which could be expanded into a separate faculty, the best organisation for the implementation of General Education would be a separate Board of Studies working directly under the Academic Council of the University.

The question of introducing General Education into the technical and vocational institutions in the country is also of great importance. But it does not fall within the scope of this short study which is concerned only with General Education in the Universities and Arts and Science Colleges.

V

IN A WORD

INDIA is passing through exciting times. After lagging behind for centuries in the race for the acquisition of knowledge and conquest of nature, she is now striving to overtake, in the shortest time possible, countries far ahead of her. She is yearning to free herself from ignorance, disease, poverty and superstition and to devote herself to the realisation of truth, love and beauty. Great dreams are being dreamt, gigantic plans are being conceived. For the dreaming of dreams and making of plans, a few persons of faith and vision and daring are enough. To realise the dreams, to carry out the plans, millions of men are required, each with an expert knowledge of the field in which he has to function. But expert knowledge of something is not by itself sufficient to create in its possessor the inner urge to put that knowledge to proper use in the service of the higher purposes of life. It does not teach him to live in peace and amity with his fellow men. It does not give him the eye for the beautiful and the sublime, the faith in the true and the good and the desire to create goodness, beauty and harmony in himself. It has to be supplemented with a wider education which was once called Liberal, and is now termed General Education.

This General Education, if wisely conceived and carefully administered, will not, as I have tried to show, prove to be an additional burden breaking the back of the young student about to embark on the journey of life; but an enchanted winged staff which will not only support him at every step but lend speed, strength and confidence to his pace.

Scientific knowledge which we acquire by being drilled in special disciplines gives us a command not only of the facts of nature and of life but also of the principles and laws governing these facts. What it does not and cannot give us is an insight into values which make us accept and venerate and serve the ultimate purpose of life and nature. So there is a discord in our innermost being which we have to resolve through an education which relates "grey theory" with "life's glad golden tree"; abstract knowledge with right action in concrete life-situations; and induces in us attitudes of affirmation and reverence to the ultimate values of life:

Let knowledge grow from more to more
But more of reverence in us dwell
That mind and soul according well
May make one music as before.

APPENDIX I

THE RECOMMENDED SYLLABUS

PRE-UNIVERSITY

A. COURSES IN COMMUNICATION IN MOTHER TONGUE, HINDI AND ENGLISH

B. COURSES INTRODUCING THE NATURAL ENVIRONMENT

(i) *The Nature of the Physical Universe*

(*a*) The Macrocosm

- The vault of the heavens
- Early ideas about the universe
- The Aristotelian-Ptolemiac synthesis
- The Copernican revolution
- The Newtonian synthesis
- The universe of Einstein
- The epoch of artificial satellites and planets

(*b*) The Microcosm

- What is matter
- Structure of matter
- Inside the atom
- Atoms, molecules, elements and compounds
- Behaviour of compounds—organic and inorganic
- Energy and its forms
- Conversion of mass into energy
- Peaceful and destructive uses of energy
- Social responsibility of Science

(c) Earth as the Home of Man

- Earth and its neighbours

- The interior of the earth
- The surface of the earth
- The atmosphere
- The geographic environment
- Varieties

(ii) *The Nature and Evolution of Life*

(*a*) The Structure and Functions of Living Things

- The body of living things
- How living things obtain energy
- How living things behave
- How living things reproduce
- How living things inherit

(*b*) Origin and Evolution of Life

- Pre-Darwinian ideas
- Evolution proved
- Evolution explained
- Genetic basis of evolution
- The course of life
- Nature of life
- Origin of life
- Moral of evolution

(iii) Science and Society

(*a*) What is science
(*b*) Science as an institution
(*c*) Methods of science
(*d*) Science as a cumulative tradition
(*e*) Science and technology
(*f*) Science as a source of general ideas
(*g*) Science and society
(*h*) Social responsibility of science in the atomic age

B.A., B.Sc., B.Com.—FIRST YEAR

A. COURSES IN COMMUNICATION IN MOTHER TONGUE, HINDI AND ENGLISH—CONTINUED

B. COURSES INTRODUCING THE SOCIAL ENVIRONMENT

(i) *Evolution of Society*

- (*a*) Early human societies
- (*b*) The Bronze Age civilizations
- (*c*) The Age of Greece and Rome
- (*d*) Hellenistic culture and the medieval Arab renaissance
- (*e*) The medieval European society
- (*f*) The Renaissance
- (*g*) The dawn of the industrial era

(ii) *The Industrial Society*

- (*a*) The origin and spread of the Industrial Revolution
- (*b*) Modern economic systems
  - —Capitalism: the working of enterprise
  - —Socialism: the working of the centrally planned economic system
  - —Mixed economy
- (c) The political structure
  - —Democracy and parliamentary government
  - —The Soviet political system
  - —Social democracy
- (*d*) The social structure
  - —The class society: labour and capital
  - —The changing pattern of family life
  - —Town and country

(*e*) The cultural pattern

- The quest of reality in the industrial age
- Realism in art and its alternatives
- The rise and development of new forms in arts
- The problem of the growth of national cultures in an age of growing internationalism

(*f*) An international society

- International economic relations: trade and foreign investment
- International political relations: imperialism and international conflicts
- The United Nations
- Towards the atomic age; its social and political implications

(iii) *Indian Culture—A Study in Cultural Synthesis*

(*a*) The Pre-Vedic and Vedic societies—the first synthesis, Vedic Hindu culture
(*b*) Rise of Buddhism—the Buddhist society and culture
(c) The Guptas, the second synthesis, Puranic Hindu culture
(d) Influence of Muslim and Hindu cultures on each other—a new cultural synthesis
(*e*) The impact of the West on Indian culture

(iv) *Problems of Modern Indian Society*

(*a*) Political problems

- The concept and forms of democracy
- Fundamentals of Indian constitution

(*b*) Problems of national unity

- Secularism
- Communism, casteism and regionalism
- Emotional integration

(c) Economic problems

- Socialism and planning
- Our needs and resources
- The five year plans

(d) Social problems arising from the changing economic pattern

(e) India and the world

- India and world peace
- India's cultural and economic relations with other countries
- India and the United Nations

B.A., B.Sc., B.Com.—SECOND YEAR

COURSES INTRODUCING THE WORLD OF VALUES

(i) *Appreciation of Literature*

(*a*) Literature and reality
(*b*) Forms of literature
(c) Craft of literature
(d) Values of literature

(This course will be supplemented by reading from World Classics)

(ii) *Appreciation of Art*

(*a*) Appreciation of painting

- The meaning and medium of painting

- Main classifications
- Significant landmarks in the development of painting
- A study of the following:
  Landscape (Wang Wei), *The Bhikshu* (Ajanta Mural), *Mona Lisa* (Leonardo da Vinci), *Falcon* (Mansur), *A Woman Bathing* (Rembrandt), *Card Players* (Cezanne), *Cypresses* (Van Gogh), *Mother and Child* (Picasso), *Three Women* (Jamini Roy)

(*b*) Appreciation of Indian architecture

- Definition and functions
- Brief historical survey of the main styles
- A study of the following:
  The Great Stupa at Sanchi, Chaitya Hall (Cave 19, Ajanta), Parasuramesvara Temple (Bhuvanesvar), Mahabodhi Temple (Bodh Gaya), the Qutub Minar, the Fort of Agra, the Moti Masjid, the Diwan-i-Khas, the Taj Mahal and Rashtrapati Bhawan

(c) Appreciation of Hindustani music

- The components of Hindustani music
- The meaning of raga
- Styles of Hindustani music
- A study of the following ragas:
  Bharav, Bindrabani Sarang, Multani and Vihag

(iii) *Man and the Search for Truth*

(a) The subject

- Study of the human mind, meeting point of science and philosophy
- The human personality

- Sub-conscious and unconscious mind
- The origin of creative impulse
- Psycho-analysis

(b) The object

- Love of the human mind for ultimate truth and reality
- The nature of values and norms and the evolution of human conduct
- The nature and validity of knowledge

(iv) *Man in the New World*

(*a*) The main features of the modern world—economic, technological, political, social, cultural

(*b*) Problems that they pose for the modern man; the skills, qualities and attitudes which he needs for dealing with them.

(*c*) Agencies which can help him in dealing with them —school and education, religion and social order

APPENDIX II

THE SYLLABUS APPROVED BY THE MUSLIM UNIVERSITY, ALIGARH

PRE-UNIVERSITY CLASS

A—*General Science Course for Arts Students*

1. The universe: stars, solar system and the earth
2. The earth's surface: land forms and atmosphere
3. Matter and energy:

    (*a*) The nature of matter
    (*b*) The conversion of matter into energy
    (*c*) Atomic energy and its uses

4. The living world:

    (*a*) The living cell and forms of life
    (*b*) Evolution of life
    (*c*) Human body
    (*d*) Health and disease

5. The meaning and method of science
6. Science and society

B—*General Science Course for Science Students*

1. The meaning of science
2. The universe:

    (*a*) The Greek concept
    (*b*) The Newtonian revolution

(*c*) The modern concepts
(*d*) The earth and its neighbours

3. Matter and energy:

(*a*) Matter and its structure
(*b*) Energy—its forms and uses
(*c*) Conversion of matter into energy—atomic energy, its uses and abuses

4. Our earth:

(*a*) Inside the earth
— Its age
(*b*) The surface of the earth
(c) The atmosphere

5. The living world:

(*a*) Origin of life
(*b*) Structure of the living cell
(*c*) Forms of life
(*d*) Evolution of life
(*e*) Emergence of man
(*f*) Man as an organism—health and disease

6. The scientific method
7. Science and society

B.A., B.Sc., B.Com. PART I EXAMINATION

MODERN INDIAN SOCIETY

A—The Indian heritage:

(*i*) Cultural synthesis in ancient India—Pre-Vedic, Aryan, Buddhist influences

(*ii*) Cultural synthesis during the medieval period
(*iii*) Impact of the west
(*iv*) Movement for national freedom

B—Political problems:

(*i*) The concept and forms of democracy
(*ii*) Fundamentals of the Indian Constitution

C—Problems of national unity:

(*i*) Secularism
(*ii*) Communalism, casteism and regionalism
(*iii*) Emotional integration

D—Economic problems:

(*i*) Socialism and planning
(*ii*) Our needs and resources
(*iii*) The Five Year Plans

E—India and the world:

(*i*) India and world peace
(*ii*) India's cultural and economic relations with other countries
(*iii*) India and the United Nations

B.A., B.Sc., B.Com., PART II EXAMINATION

HUMANITIES

1. Place of art and literature in life
2. Appreciation of literature:

(*a*) Forms of literature

(b) Craft of literature
(c) Values of literature

3. Art appreciation: either

(*a*) Appreciation of painting

(*i*) Main classification
(*ii*) The landmarks in the development of painting as illustrated by the following: *Landscape* (Wang Wei), *Bhikshu* (Ajanta Mural), *Mona Lisa* (Leonardo da Vinci), *Falcon* (Mansur), *A Woman Bathing* (Rembrandt), *Card Players* (Cezanne), *Cypresses* (Van Gogh), *Mother and Child* (Picasso), *Shahjehan's Dream* (Tagore), *Three Women* (Jamini Roy). (Some paintings to be added to this list later)

or

(*b*) Appreciation of Indian architecture:

(*i*) Brief historical survey of the main styles
(*ii*) A study of the following: The Great Stupa at Sanchi, Chaitya Hall (Cave 19, Ajanta), Parasuramesvara Temple (Bhuvaneswar), Minakshi Temple (Madura), Qutub Minar, Red Fort, The Alai Darwaza (Delhi), Diwan-i-Khas (Delhi), Taj Mahal, Buland Darwaza (Fatehpur Sikri), Moti Masjid (Agra)

4. Philosophy and psychology:

(*i*) Meaning and purpose of philosophy

- (ii) Problems of philosophy—reality; knowledge; and virtue
- (*iii*) The human mind
- (*iv*) Development of personality

5. Man in the new world:

- (*i*) The main features of the modern world—economic, technological, political, social, cultural
- (*ii*) Problems that they pose for the modern man; the skills, qualities and attitudes which he needs for dealing with them
- (*iii*) Agencies which can help him in dealing with them —school and education, religion and social order

APPENDIX III

A LIST OF BOOKS BEING PREPARED BY THE GENERAL EDUCATION READING MATERIAL PROJECT ALIGARH MUSLIM UNIVERSITY

A. *Introductory*:

1. WHAT IS GENERAL EDUCATION

B. *Natural Sciences—Introducing the Natural Environment*:

2. THE UNIVERSE AND THE ATOM
3. THE EARTH WE LIVE ON
4. ORIGIN AND EVOLUTION OF LIFE
5. SCIENCE AND SOCIETY

C. *Natural Sciences—Selections from Original Writings*:

6. CHANGING CONCEPTS OF THE UNIVERSE—in the words of great scientists
7. DEMOCRITUS TO RUTHERFORD—how great scientists have viewed the atom
8. THE STORY OF ORGANIC EVOLUTION—as told by its great exponents
9. "HOMO SAPIENS"—memorable thoughts on man in nature
10. SCIENCE—as great scientists see it

D. *Social Sciences—Introducing the Social Environment*:

11. EVOLUTION OF SOCIETY
12. MODERN INDUSTRIAL SOCIETY
13. MODERN INDIAN SOCIETY

E. *Social Sciences—Selections from Original Writings:*

14. GLEANINGS FROM INDIAN THOUGHT
15. MESSAGES OF FREEDOM
16. SIGNIFICANT IDEAS ABOUT SOCIALISM AND PLANNING
17. CONCEPTS OF LIBERTY AND DEMOCRACY

F. *Humanities—Introducing the World of Values:*

18. APPRECIATION OF LITERATURE
19. APPRECIATION OF INDIAN PAINTING
20. APRECIATION OF EUROPEAN PAINTING
21. APPRECIATION OF INDIAN ARCHITECTURE
22. APPRECIATION OF HINDUSTANI MUSIC
23. MAN, REALITY AND VALUES

G. *Humanities—Selections from Original Writings:*

24. SELECTIONS FROM WORLD LITERATURE
25. SELECTIONS FROM URDU LITERATURE
26. SELECTIONS FROM HINDI LITERATURE
27. READINGS IN PHILOSOPHY

H. *Concluding:*

28. MAN IN THE NEW WORLD

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WHAT IS GENERAL EDUCATION—Abid Husain

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